Pontificia accademia romana dei nuovi Lincei. Atti. Roma. Anno 73. Sess. VI–VII. 16 maggio 1920–20 giugno 1920.

Negro, Carlo. Sulla velocità del vento all'inizio della stratosfera. p. 228–235.

Revue générale des sciences. Paris. 33 année. 13 fév., 1922.

Maurain, Ch. La variation de la vitesse du vent avec l'altitude. p. 76–80.

Royal Dublin society. Scientific proceedings. Dublin. v. 16. August, 1921.

McClelland, J. A., & M'Henry, J. J. Uncharged nuclei produced in moist air by ultra-violet light and other sources. p. 282–303.

Royal meteorological society. Quarterly journal. London. v. 47. Oct., 1921.

Brooks, C. E. P. Meteorology of British North Borneo. p. 294–297.

Comissopulos, N. A. Variability of mean annual temperature over North America and Europe during the ten years 1900–1909. p. 283–286.

Dines, W. H. Correlation between temperature, sky radiation, and vapour pressure. p. 260.

Dobson, G. M. B. Causes of errors in forecasting pressure gradients and wind. p. 261–269. [Abstract in Jan. 1922 REVIEW, p. 26.]

Douglas, C. K. M. A complex cyclone. p. 298–301.

Royal meteorological society—Continued.

Fujiwhara, S. The natural tendency towards symmetry of motion and its application as a principle in meteorology. p. 287–293.

Granger, R. Francis. Physical structure of cloud-form in the lower atmosphere. p. 271–281.

Salisbury, E. J. Phenology and habitat with special reference to the phenology of woodlands. p. 251–259.

Royal society of Edinburgh. Proceedings. Edinburgh. v. 41. pt. 2. sess. 1920–21.

Chisholm, Geo. G. John George Bartholomew. p. 170–176. [Obituary.]

Knott, C. G. John Aitken. p. 177–181. [Obituary.]

Ramage, Alex G. Note on condition for mirage on the Queensberry road. p. 148–149.

School science and mathematics. Chicago. v. 22. March, 1922.

Packard. John C. Humidity indoors. p. 224–225.

Science. N. Y. v. 55. 1922.

Chase, Mabel A. Iridescent clouds. p. 263–264. (March 10.)

Meisinger, C. LeRoy. New discussion of temperatures in the United States. p. 292–295. (March 17.) [Abstract of Mo. WEATHER REV. article, Nov., 1921, pp. 595–606.]

Scientific American. N. Y. v. 126. April, 1922.

Bell, Charles H. Washing London fog out of the atmosphere of a motion picture studio. p. 255.

d'Orcy, Ladislas. Soaring birdmen. p. 235–237.

SOLAR OBSERVATIONS.

SOLAR AND SKY RADIATION MEASUREMENTS DURING FEBRUARY, 1922.

By HERBERT H. KIMBALL, Meteorologist.

For a description of instruments and exposures, and an account of the method of obtaining and reducing the measurements, the reader is referred to this REVIEW for April, 1920, 48:225.

From Table 1 it is seen that direct solar-radiation intensities averaged close to normal values for February at Washington, D. C., and Lincoln, Nebr., and slightly below normal at Madison, Wis. But few measurements were obtained at Santa Fe, N. Mex., on account of the frequency of local smoke in the atmosphere.

Table 2 shows that the total solar and sky radiation received on a horizontal surface averaged close to the February normal at both Washington and Madison.

Skylight polarization measurements made on two days at Washington give a mean of 55 per cent, with a maximum of 57 per cent on the 24th. These are slightly below the average February Washington values. At Madison no measurements were obtained, as the ground was covered with snow during the entire month.

TABLE 1.—*Solar radiation intensities during February, 1922.*

[Gram-calories per minute per square centimeter of normal surface.]

Washington, D. C.

Date.	Sun's zenith distance.									
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Feb. 3	2.16					1.51	1.34	1.20	1.05	0.93	2.16
4	2.36	0.80	0.94	1.12	1.29						2.62
6	5.16						1.24	1.12	.92	.76	5.79
8	1.52				1.20		1.12				1.68
11	5.36							.78	.63		6.02
14	1.60				.99						1.78
16	1.45						1.24	1.14			1.45
17	.86		1.15	1.29	1.43	1.60					.91
23	8.48		.68	.80	1.04						10.59
24	2.74		.94	1.07	1.26		1.18				2.49
25	2.74		.64	.77	.87						2.74
Means		(.80)	.87	1.01	1.15		1.22	1.06	.87	(.84)	
Departures		+.02	+.03	±.00	−.05		+.01	+.05	+.02	+.08	

* Extrapolated.

TABLE 1.—*Solar radiation intensities during February, 1922*—Con.

Madison, Wis.

Date.	Sun's zenith distance.									
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon.
	75th meridian time.	Air mass.									Local mean solar time.
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Feb. 4	1.52		0.98	1.14	1.16						2.87
7	1.52	0.89	.90								1.88
9	3.30				1.16						3.81
11	1.19			1.25							1.45
13	.84		1.13	1.28	1.43		1.40	1.21			.86
14	1.02				1.25		1.27	1.03			1.78
15	.96						1.47				.96
16	.56	1.05	1.16	1.26	1.44	1.64					.74
24	1.12		1.09	1.22	1.35	1.56					1.68
27	2.16			1.21	1.41	1.61	1.32				1.52
28	.71			1.24	1.40	1.58	1.30	1.21			.96
Means		(.97)	1.07	1.23	1.32		1.35	1.15			
Departures		+.04	−.06	−.01	−.05		−.03	−.05			

Lincoln, Nebr.

Feb. 1	2.36		1.04	1.18	1.40	1.62					1.96
2	1.45	1.08	1.17	1.29	1.46	1.65	1.45	1.22	1.11	1.01	1.96
3	1.52	.74	.97	1.13	1.31			1.20	1.14	1.05	2.62
6	1.32		1.13	1.25	1.37	1.51	1.45	1.31	1.19	1.05	1.96
7	1.37	.98	1.07	1.18	1.39		1.36				1.96
10	3.81		.91	1.08	1.39	1.62	1.37	1.16	.98		4.75
11	1.32	.77	.91	1.18	1.33						1.68
13	.79				1.35						.86
14	.91						1.30	.88	.62	.62	2.06
15	1.52	1.00	1.15	1.28	1.44	1.61		1.28	1.15	1.03	1.37
16	1.37			1.12							1.96
18	2.74		.93	1.08	1.28						5.79
19	4.57			1.28	1.42						3.45
Means		.91	1.03	1.19	1.38		1.39	1.18	1.03	.95	
Departures		−.07	−.02	−.02	−.02		+.03	−.01	−.01	+.03	

Santa Fe, N. Mex.

Feb. 13	1.96			1.24	1.46	1.72					2.87
14	3.00								1.41	1.30	1.96
20	2.62			1.21	1.39						2.16
Means				(1.22)	(1.42)				(1.41)	(1.30)	
Departures				−.09	−.05				+.18	+.15	

* Extrapolated.

TABLE 2.—*Solar and sky radiation received on a horizontal surface.*

Week beginning.	Average daily radiation.			Average daily departure for the week.			Excess or deficiency since first of year.		
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.	Washington.	Madison.	Lincoln.
	cal.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
Jan. 29	262	179	.....	+55	−26	.....	+ 67	+324	.....
Feb. 5	186	259	.....	−40	+38	.....	−214	+590	.....
12	218	270	.....	−29	+29	.....	−420	+790	.....
19	303	207	.....	+36	−55	.....	−170	+405	.....

MEASUREMENTS OF THE SOLAR CONSTANT OF RADIATION AT CALAMA, CHILE.

By C. G. ABBOT, Assistant Secretary.

[Smithsonian Institution, Washington, April 3, 1922.]

In continuation of preceding publications, the following table contains the results for the solar constant of radiation obtained at Montezuma, near Calama, Chile, in January, 1922. The values of $\rho/\rho sc$ are given in air mass 2, or, if not, the air mass is stated. The reader is referred for further statements regarding the arrangement and meaning of the table to the REVIEW for February, August, and September, 1919.

The observers report that during an observation about the middle of January, in a very high gust of wind, the diaphragm, which restricted the observation of the pyranometer to a definite region of sky around the sun, was blown away, and though searched for it could not be found anywhere on the mountain. The new pyranometer, referred to in this REVIEW for December, had not been compared with the old one as much as was thought desirable, and pending orders from Washington the observers reverted entirely to the long method of observation during the remainder of January, February and a part of March.

The observers call attention to the very high excellence of many of the long-method observations taken in January. This is in line with the statements of the writer in the article above cited.

The reader may note that from about the 8th of December there was a rapid fall of the solar-constant values, but that unfortunately from December 14 to January 8 ensued a period of very cloudy weather during which observations could not be taken. From January 8 there was a correspondingly rapid rise of solar-constant values. In general, the months of December and January, however, differed little from the mean of several years at the Chilean station, and have not, like the months of December and January of 1920 and 1921 been remarkable for exceptionally high values.

Date.	Solar constant.	Method.	Grade.	Transmission coefficient at 0.5 micron.	Humidity.			Remarks.
					$\rho/\rho sc$.	V. P.	Rel. hum.	
1922.								
A. M.	*cal.*					*cm.*	*Per cent.*	
Jan. 8	1.923	M_1	S−	0.859	[1] 0.488	0.40	21	Cirri scattered about sky.
P. M.								
11	1.903	$M_{1.75}$	U	.852	[2] .470	.53	38	Clouds scattered about sky.
	1.947	$M_{1.55}$						
	1.932	W. M.						
12	1.904	M_2	S−	.857	.502	.42	21	Cumuli in east and west.
	1.937	$M_{1.5}$						
	1.922	W. M.						
13	1.947	$M_{1.86}$	S−	.857	[3] .534	.38	19	Clouds in east and west.
	1.937	$M_{1.56}$						
	1.942	W. M.						
A. M.								
14	1.892	$M_{1.84}$	S−	.857	[4] .507	.45	30	Clouds scattered about sky.
	1.957	$M_{1.5}$						
	1.941	$M_{1.30}$						
	1.941	W. M.						
15	1.950	M_2	S	.861	.556	.60	49	Cirri in north, cumuli in south.
	1.962	$M_{1.68}$						
	1.945	$M_{1.5}$						
	1.952	W. M.						
16	1.969	$M_{1.83}$	S	.866	[5] .638	.25	22	Some cirri in north.
	1.971	$M_{1.63}$						
	1.970	W. M.						
17	1.951	$M_{2.32}$	S	.868	.609	.32	24	Cloudless.
	1.951	M_2						
	1.947	$M_{1.5}$						
	1.949	W. M.						
P. M.								
19	1.958	$M_{1.75}$	S−	.870	[6] .653	.27	12	Do.
20	1.936	E_0	VG+	.861	[7] .568	.21	11	Do.
A. M.								
21	1.959	E_0	E	.857	.662	.18	16	Do.
22	1.941	E_0	E+	.859	[8] .490	.27	26	Do.
24	1.957	E_0	E	.855	.468	.38	35	Do.
P. M.								
25	1.927	E_0	E	.846	.414	.46	22	Clouds over high peaks.
A. M.								
26	1.936	E_0	E+	.856	.454	.46	38	Cloudless.
P. M.								
27	1.944	E_0	E	.844	.536	.46	24	Clouds over high peaks.
A. M.								
28	1.951	E_0	E	.852	.9462	.51	53	Cloudless.
P. M.								
30	1.957	E_0	E+	.837	.520	.42	23	Clouds scattered about sky.
A. M.								
31	1.959	E_0	E [9]	.851	.492	.54	49	Cirri in north and east.

[1] Air mass 1.00.
[2] Air mass 1.79.
[3] Air mass 1.84.
[4] Air mass 1.85.
[5] Air mass 1.84.
[6] Air mass 1.75
[7] Air mass 2.30.
[8] Air mass 2.49.
[9] Air mass 2.28.